



COFC  
PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

<b>Inventor(s):</b> JAMES LAURENCE MULLIGAN	<b>Examiner:</b> Chu, John S Y
<b>Patent No.</b> 6,783,911B2	<b>Group Art Unit:</b>
<b>Issue Date:</b> August 31, 2004	
<b>Appln. No.:</b> 10/056,212	<b>Docket No.</b> 58575-279176
<b>Filing Date:</b> January 24, 2002	
<b>Title:</b> ISOCYANATE CROSSLINKED IMAGEABLE COMPOSITIONS	

Mail Stop CERTIFICATE OF CORRECTION BRANCH  
Commissioner for Patents  
P. O. Box 1450  
Alexandria, VA 22313-1450

I CERTIFY THAT, ON OCTOBER 12, 2004, THIS PAPER IS BEING  
DEPOSITED WITH THE U.S. POSTAL SERVICE AS FIRST CLASS  
MAIL IN AN ENVELOPE ADDRESSED TO MAIL STOP CERTIFICATE  
OF CORRECTION BRANCH, COMMISSIONER FOR PATENTS,  
P. O. BOX 1450, ALEXANDRIA, VA 22313-1450.

*Karen Hull*  
Karen Hull

**REQUEST FOR EXPEDITED ISSUANCE OF  
CERTIFICATE OF CORRECTION OF PATENT UNDER 37 C.F.R. § 1.322**

The enclosed Certificate of Correction (PTO/SB/44) is submitted to correct errors in this patent arising as a result of an Office mistake.

No fee is believed to be necessary. Should any fee be required, the Commissioner is authorized to charge our Deposit Account No. 06-0029 and is requested to notify us of the same.

The corrections referenced on PTO/SB/44 are typographical. The correction to claim 40 (claim 72 in the amendment) is supported by the RCE filed on March 15, 2004 and the Amendment filed on January 22, 2004 when claim 40 was added. Claim 72 was allowed as originally entered with no further amendments being made to the claim. In the Amendment filed January 22, 2004, claim 72 depends from claim 37. Claim 37 in the amendment was renumbered to claim 16 in the patent. Thus, the dependency for claim 40 should also depend from renumbered claim 16. Copies of the RCE and Amendment are attached.

Respectfully Submitted,

JAMES LAURENCE MULLIGAN

By:

*Sean Mahoney*  
Sean B. Mahoney, #51,984  
FAEGRE & BENSON LLP  
2200 Wells Fargo Center  
90 South Seventh Street  
Minneapolis, MN 55402-3901  
612/766-6845

Dated: October 12, 2004

Certificate  
OCT 21 2004  
of Correction

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.  
(Also Form PTO-1050)

## UNITED STATES PATENT AND TRADEMARK OFFICE

## CERTIFICATE OF CORRECTION

PATENT NO : 6,783,911 *B2*

DATED : August 31, 2004

INVENTOR(S) : JAMES LAURENCE MULLIGAN

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

Claim 40, line 48, delete number "35" and replace it with — 16 —.

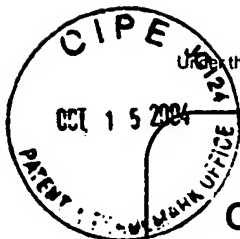
MAILING ADDRESS OF SENDER: Sean B. Mahoney  
FAEGRE & BENSON LLP  
2200 Wells Fargo Center  
90 South Seventh Street  
Minneapolis, MN 55402-3901  
612/766-6845

PATENT NO. 6,783,911 *B2*

No. of additional copies



OCT 22 2004



Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PTO/SB/30 (08-00)  
Approved through 10/31/2002. OMB 0651-0031  
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

## REQUEST FOR CONTINUED EXAMINATION (RCE) TRANSMITTAL

Subsection (b) of 35 U.S.C. § 132, effective on May 29, 2000, provides for continued examination of an utility or plant application filed on or after June 8, 1995.  
See The American Inventors Protection Act of 1999 (AIPA).

Application Number	10/056,212
Filing Date	January 24, 2002
Examiner Name	Chu, John S. Y.
First Named Inventor	James Mulligan
Group Art Unit	1752
Attorney Docket Number	58575-279176

This is a Request for Continued Examination (RCE) under 37 C.F.R. § 1.114 of the above-identified application.  
**NOTE:** 37 C.F.R. § 1.114 is effective on May 29, 2000. If the above-identified application was filed prior to May 29, 2000, applicant may wish to consider filing a continued prosecution application (CPA) under 37 C.F.R. § 1.53 (d) (PTO/SB/29) instead of a RCE to be eligible for the patent term adjustment provisions of the AIPA. See Changes to Application Examination and Provisional Application Practice, Interim Rule, 65 Fed. Reg. 14865 (Mar. 20, 2000), 1233 Off. Gaz. Pat. Office 47 (Apr. 11, 2000), which established RCE practice.

1. Submission required under 37 C.F.R. § 1.114

- a. ☒ Previously submitted
- i. ☒ Consider the amendment(s)/reply under 37 C.F.R. § 1.116 previously filed on January 22, 2004  
(Any unentered amendment(s) referred to above will be entered).
- ii. ☐ Consider the arguments in the Appeal Brief or Reply Brief previously filed on
- iii. ☐ Other
- b. ☐ Enclosed
- i. ☐ Amendment/Reply
- ii. ☐ Affidavit(s)/Declaration(s)
- iii. ☐ Information Disclosure Statement (IDS)
- iv. ☐ Other

2. Miscellaneous

- a. ☐ Suspension of action on the above-identified application is requested under 37 C.F.R. § 1.103(c) for a period of months. (Period of suspension shall not exceed 3 months; Fee under 37 C.F.R. § 1.17(l) required)
- b. ☐ Other

3. Fees The RCE fee under 37 C.F.R. § 1.17(e) is required by 37 C.F.R. § 1.114 when the RCE is filed.

- a. ☒ The Director is hereby authorized to charge the following fees, any deficiency or credit any overpayments, to Deposit Account No. 06-0029
- i. ☐ RCE fee required under 37 C.F.R. § 1.17(e)
- ii. ☐ Extension of time fee (37 C.F.R. §§ 1.136 and 1.17)
- iii. ☐ Other
- b. ☐ Check in the amount of \$ enclosed
- c. ☒ Payment by credit card (Form PTO-2038 enclosed)

### SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

Name (Print /Type)	Sean B. Mahoney	Registration No. (Attorney/Agent)	51,984
Signature	<i>Sean Mahoney</i>	Date	March 15, 2004

### CERTIFICATE OF MAILING OR TRANSMISSION

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Mail Stop RCE, COMMISSIONER FOR PATENTS, P. O. MAIL STOP 1450, ALEXANDRIA, VA 22313-1450, or facsimile transmitted to 703.872.9306, the U.S. Patent and Trademark Office on: March 11, 2004

Name (Print /Type)	Karen Hull		
Signature	<i>Karen Hull</i>	Date	<del>March 11, 2004</del> March 15, 2004

SEND Fees and Completed Forms to the following address: Mail Stop RCE, COMMISSIONER FOR PATENTS, P. O. MAIL STOP 1450, ALEXANDRIA, VA 22313-1450.



PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

<b>Applicant:</b> JAMES LAURENCE MULLIGAN	<b>Examiner:</b> Chu, John S Y
<b>Serial No.:</b> 10/056,212	<b>Group Art Unit:</b> 1752
<b>Filed:</b> January 24, 2002	<b>Docket No.</b> 58575-279176
<b>For:</b> ISOCYANATE CROSSLINKED IMAGEABLE COMPOSITIONS	

Mail Stop AFTER FINAL  
Commissioner for Patents  
P. O. Box 1450  
Alexandria, VA 22313-1450

I CERTIFY THAT, ON JANUARY 22, 2004, THIS PAPER IS BEING  
TRANSMITTED VIA FACSIMILE TO 703.872.9306, MAIL STOP AFTER  
FINAL, COMMISSIONER FOR PATENTS, P. O. BOX 1450,  
ALEXANDRIA, VA 22313-1450.

  
Karen Hull

**AMENDMENT AND RESPONSE**

This Amendment is responsive to the outstanding final Office Action mailed November 24, 2003. Entry of this Amendment and reconsideration of the application is requested.

No fee is included with this paper. In the event that a fee is required for entry of this paper, the Commissioner is authorized to charge our Deposit Account 06-0029 and is requested to notify us of the same.

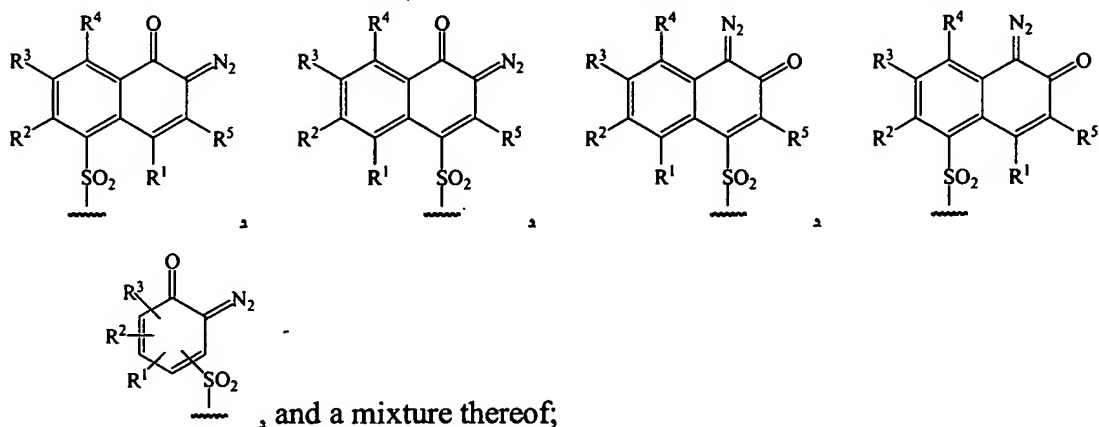
This Amendment and Response includes:

Amendments to the Claims (pp. 2-12)

Remarks and Conclusion (pp. 13-16)

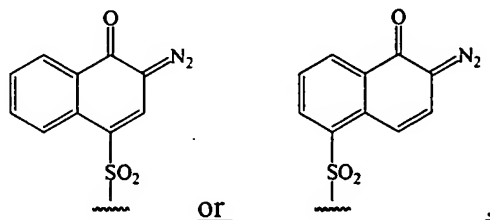
## AMENDMENTS TO THE CLAIMS

1. (Currently amended) A positive working imageable composition, comprising:  
~~an ink-receptive~~ a hydroxyfunctional resin comprising a covalently bound radiation sensitive group capable of increasing the solubility of said imageable composition in an alkaline developer upon exposure to radiation;  
an acid generator;  
a colorant; and  
 an isocyanate crosslinking agent.
2. (Cancelled)
3. (Previously presented) The imageable composition of claim 1, wherein said covalently bound radiation sensitive group is sensitive to ultraviolet radiation.
4. (Currently amended) The imageable composition of claim ~~3~~ 1, wherein said radiation sensitive group is a moiety selected from the group consisting of ~~moieties of the formula:~~



wherein each of  $R^1$ ,  $R^2$ ,  $R^3$ ,  $R^4$  and  $R^5$  is independently selected from the group consisting of: hydrogen, linear, branched or cyclic alkyl of 1 to 22 carbon atoms, aralkyl of 6 to 22 carbon atoms, aryl, alkaryl, alkoxy of 1 to 22 carbon atoms, haloalkyl, halogen, acyl, ester and cyano.

5. (Currently amended) The imageable composition of ~~claim 4~~ claim 1, wherein said radiation sensitive group is a moiety selected from ~~the group consisting of moieties of the formula:~~



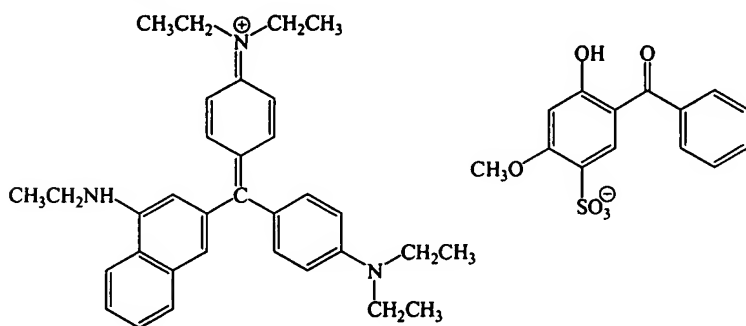
6. (Cancelled)
7. (Currently amended) The imageable composition of claim 1, wherein said hydroxyfunctional resin ~~further comprises~~ includes a resin moiety derived from a polyfunctional resin selected from the group consisting of: a novolak resin, a pyrogallol/acetone resin, polyvinyl phenol polymer, vinyl phenol/hydrocarbyl acrylate copolymer, a resole resin, an acrylic resin, a polyester resin, a polyurethane resin, a polyol and a mixture thereof.
8. (Previously presented) The imageable composition of claim 7, wherein said polyfunctional resin is a phenol novolak resin, a cresol novolak resin, a phenol/cresol novolak resin, a resole resin or a mixture thereof.
9. – 12. (Cancelled)
13. (Previously presented) The imageable composition of claim 1, wherein said isocyanate crosslinking agent is selected from the group consisting of: isophorone diisocyanate, methylene-bis-phenyl diisocyanate, toluene diisocyanate, hexamethylene diisocyanate, tetramethylxylylene diisocyanate, dimers thereof, adducts thereof with diols, adducts thereof with triols, adducts thereof with polyols, adducts thereof with polyesters, adducts thereof with acrylic resins, adducts thereof with polyurethane polyols, adducts thereof with an isocyanate blocking agent and mixtures thereof.
14. (Currently amended) The imageable composition of ~~claim 13~~ claim 1, wherein said isocyanate crosslinking agent ~~further comprises~~ a blocking agent selected from the group consisting of: a phenol, an oxime, a lactam and a pyrazole.

15. (Currently amended) The imageable composition of claim 14 1, wherein said isocyanate crosslinking agent comprises a blocking agent is-selected from phenol, methyl ethyl ketone oxime, 2-pyrrolidone, 2-piperidone, caprolactam or 3,5-dimethylpyrazole.

16. (Cancelled)

17. (Cancelled)

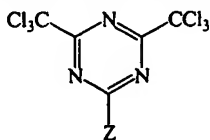
18. (Currently amended) The composition of claim-17 1, wherein said colorant is a colorant dye is-selected from the group consisting of: crystal violet, crystal violet lactone, basonyl blue, victoria pure blue BO, victoria blue B, blue colorant dye victoria blue FBR represented by the formula:



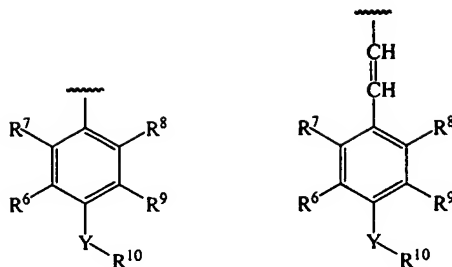
1 and a mixture thereof.

19. (Cancelled)

20. (Currently amended) The imageable composition of claim-16 1, wherein said acid generator is a light sensitive triazine compound of the formula:



wherein Z selected from the group consisting of: hydrogen, linear, branched or cyclic alkyl of 1 to 22 carbon atoms, aralkyl of 6 to 22 carbon atoms, aryl, alkaryl, alkoxy of 1 to 22 carbon atoms, haloalkyl, halogen, acyl, ester, cyano, a moiety of the formula:

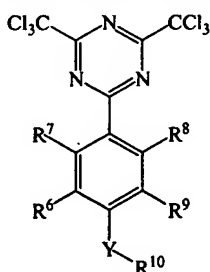


wherein

each of  $R^6$ ,  $R^7$ ,  $R^8$  and  $R^9$  is independently selected from the group consisting of: hydrogen, linear, branched or cyclic alkyl of 1 to 22 carbon atoms, aralkyl of 6 to 22 carbon atoms, aryl, alkaryl, alkoxy of 1 to 22 carbon atoms, haloalkyl, halogen, acyl, ester and cyano, or  $R^6$  and  $R^7$  or  $R^8$  and  $R^9$  together with carbon atoms to which they are attached to form a cycloaliphatic, benzo or a substituted benzo ring;

$R^{10}$  is selected from the group consisting of: linear, branched or cyclic alkyl of 1 to 22 carbon atoms, aralkyl of 6 to 22 carbon atoms, aryl, alkaryl, haloalkyl, acyl, ester and cyano; and Y is oxygen or sulfur.

21. (Currently amended) The imageable composition of claim-20\_1, wherein said acid generator is a light sensitive triazine compound is of the formula:



wherein

each of  $R^6$ ,  $R^7$ ,  $R^8$  and  $R^9$  is independently selected from the group consisting of: hydrogen, linear, branched or cyclic alkyl of 1 to 22 carbon atoms, aralkyl of 6 to 22 carbon atoms, aryl, alkaryl, alkoxy of 1 to 22 carbon atoms, haloalkyl, halogen, acyl, ester and cyano, or  $R^6$  and  $R^7$  or  $R^8$  and  $R^9$  together with carbon atoms to which they are attached to form a cycloaliphatic, benzo or a substituted benzo ring;

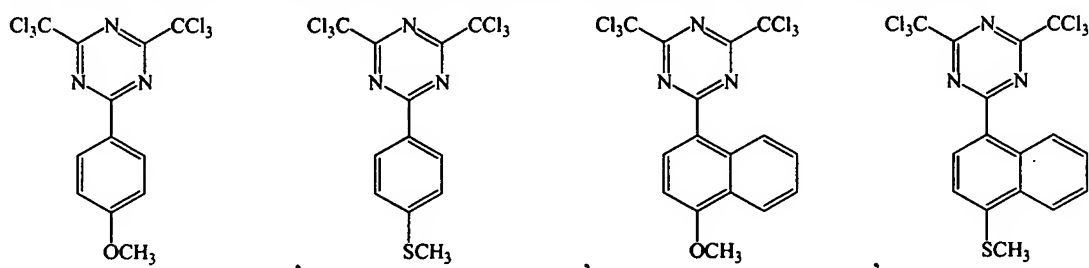
$R^{10}$  is selected from the group consisting of: linear, branched or cyclic alkyl of 1 to 22



carbon atoms, aralkyl of 6 to 22 carbon atoms, aryl, alkaryl, haloalkyl, acyl, ester and cyano;  
 and

Y is oxygen or sulfur.

22. (Currently amended) The imageable composition of claim ~~21~~ 1, wherein said acid generator is a light sensitive triazine compound is selected from the group consisting of:



and a mixture thereof.

23. (Currently amended) The imageable composition of claim ~~16~~ 1, wherein said acid generator is selected from the group consisting of: an iodonium salt, a sulfonium salt, a hydrocarbyloxysulfonium salt, a hydrocarbyloxyammonium salt, an aryl diazonium salt and a combination thereof.

24. – 33. (Cancelled)

34. (Currently amended) An imageable element comprising:

a ~~substrate comprising lithographic substrate~~ having a hydrophilic surface; and

a positive working imageable composition coated on ~~a~~ the hydrophilic surface of said substrate, said composition comprising:

~~an ink-receptive~~ a hydroxyfunctional resin comprising a covalently bound radiation sensitive group capable of increasing the solubility of said imageable composition in an alkaline developer upon exposure to radiation; and  
 an isocyanate crosslinking agent.

35. (Cancelled)

36. (Original) The imageable element of claim 34, wherein said positive working imageable composition further comprises a colorant and an acid generator.

37. (Currently amended) A method of producing an imaged element comprising the steps of:  
providing an imageable element comprising a ~~substrate comprising lithographic~~  
substrate having a hydrophilic surface and a positive working imageable composition coated  
on the hydrophilic surface of said substrate, wherein said imageable composition comprises:  
    ~~an ink-receptive~~ a hydroxyfunctional resin comprising a covalently bound  
        radiation sensitive group capable of increasing the solubility of said  
        imageable composition in an alkaline developer upon exposure to  
        radiation; and  
    an isocyanate crosslinking agent;  
heating said imageable element at a temperature and length of time sufficient to  
produce a crosslinked imageable element;  
    imagewise exposing said crosslinked imageable element to radiation to produce an  
imagewise exposed element having exposed and unexposed regions; and  
    removing the exposed regions of said imageable composition to produce said imaged  
element.

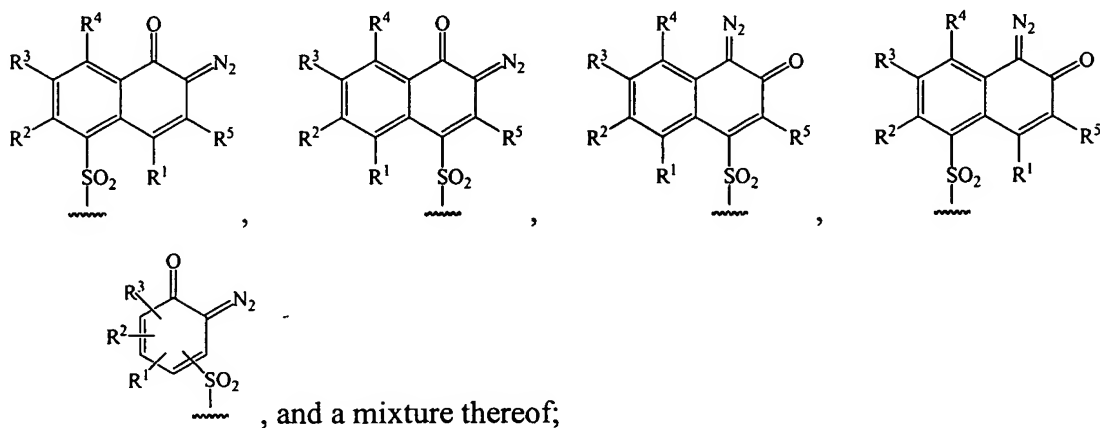
38. (Original) The method of claim 37, wherein said positive working imageable composition further comprises a colorant and an acid generator.

39. (Currently amended) The method of claim 37, wherein said exposing step ~~is carried out using~~  
includes exposing said crosslinked imageable element to ultraviolet radiation.

40. – 49. (Cancelled)

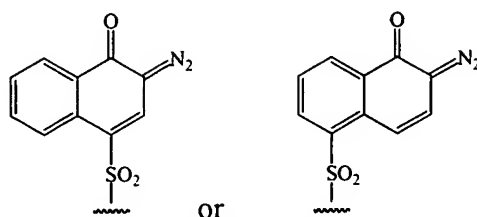
50. (New) The imageable composition of claim 1, wherein said acid generator is a salt including an anion derived from a non-volatile acid.

51. (New) The imageable composition of claim 1, wherein said acid generator is a light sensitive triazine compound, an onium salt, a covalently bound sulfonate group-containing compound, a hydrocarbylsulfonamido-N-hydrocarbyl sulfonate, or a combination thereof.
52. (New) The imageable composition of claim 1, wherein said acid generator is an onium salt including a non-nucleophilic anion.
53. (New) The imageable composition of claim 1, wherein said acid generator is a monomeric or oligomeric aromatic diazonium salt.
54. (New) The imageable element of claim 34, wherein said lithographic substrate is an aluminum sheet.
55. (New) The imageable element of claim 34, wherein said covalently bound radiation sensitive group is sensitive to ultraviolet radiation.
56. (New) The imageable element of claim 34, wherein said radiation sensitive group is a moiety selected from the group consisting of:



wherein each of R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup>, R<sup>4</sup> and R<sup>5</sup> is independently selected from the group consisting of: hydrogen, linear, branched or cyclic alkyl of 1 to 22 carbon atoms, aralkyl of 6 to 22 carbon atoms, aryl, alkaryl, alkoxy of 1 to 22 carbon atoms, haloalkyl, halogen, acyl, ester and cyano.

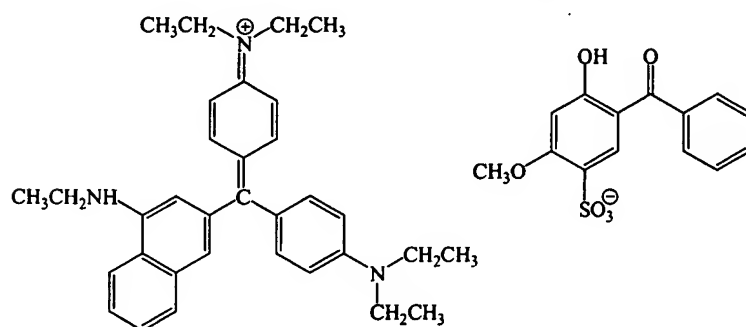
57. (New) The imageable element of claim 34, wherein said radiation sensitive group is a moiety selected from:



58. (New) The imageable element of claim 34, wherein said hydroxyfunctional resin includes a resin moiety derived from a polyfunctional resin selected from the group consisting of: a novolak resin, a pyrogallol/acetone resin, polyvinyl phenol polymer, vinyl phenol/hydrocarbyl acrylate copolymer, a resole resin, an acrylic resin, a polyester resin, a polyurethane resin, a polyol and a mixture thereof.
59. (New) The imageable element of claim 34, wherein said polyfunctional resin is a phenol novolak resin, a cresol novolak resin, a phenol/cresol novolak resin, a resole resin or a mixture thereof.
60. (New) The imageable element of claim 34, wherein said isocyanate crosslinking agent is selected from the group consisting of: isophorone diisocyanate, methylene-bis-phenyl diisocyanate, toluene diisocyanate, hexamethylene diisocyanate, tetramethylxylylene diisocyanate, dimers thereof, adducts thereof with diols, adducts thereof with triols, adducts thereof with polyols, adducts thereof with polyesters, adducts thereof with acrylic resins, adducts thereof with polyurethane polyols, adducts thereof with an isocyanate blocking agent and mixtures thereof.
61. (New) The imageable element of claim 34, wherein said isocyanate crosslinking agent comprises a blocking agent selected from the group consisting of: a phenol, an oxime, a lactam and a pyrazole.

62. (New) The imageable element of claim 34, wherein said isocyanate crosslinking agent comprises a blocking agent selected from phenol, methyl ethyl ketone oxime, 2-pyrrolidone, 2-piperidone, caprolactam or 3,5-dimethylpyrazole.

63. (New) The imageable element of claim 36, wherein said colorant is a colorant dye selected from the group consisting of: crystal violet, crystal violet lactone, basonyl blue, victoria pure blue BO, victoria blue B, blue colorant dye victoria blue FBR represented by the formula:

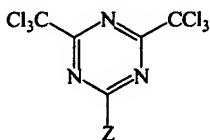


, and a mixture thereof.

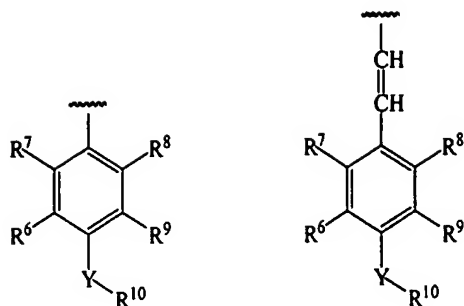
64. (New) The imageable element of claim 36, wherein said acid generator is a salt including an anion derived from a non-volatile acid.

65. (New) The imageable element of claim 36, wherein said acid generator is a light sensitive triazine compound, an onium salt, a covalently bound sulfonate group-containing compound, a hydrocarbylsulfonamido-N-hydrocarbyl sulfonate, or a combination thereof.

66. (New) The imageable element of claim 36, wherein said acid generator is a light sensitive triazine compound of the formula:



wherein Z selected from the group consisting of: hydrogen, linear, branched or cyclic alkyl of 1 to 22 carbon atoms, aralkyl of 6 to 22 carbon atoms, aryl, alkaryl, alkoxy of 1 to 22 carbon atoms, haloalkyl, halogen, acyl, ester, cyano, a moiety of the formula:

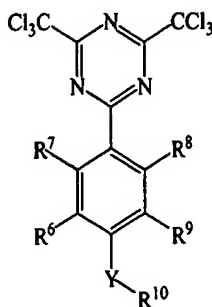


wherein

each of R<sup>6</sup>, R<sup>7</sup>, R<sup>8</sup> and R<sup>9</sup> is independently selected from the group consisting of: hydrogen, linear, branched or cyclic alkyl of 1 to 22 carbon atoms, aralkyl of 6 to 22 carbon atoms, aryl, alkaryl, alkoxy of 1 to 22 carbon atoms, haloalkyl, halogen, acyl, ester and cyano, or R<sup>6</sup> and R<sup>7</sup> or R<sup>8</sup> and R<sup>9</sup> together with carbon atoms to which they are attached to form a cycloaliphatic, benzo or a substituted benzo ring;

R<sup>10</sup> is selected from the group consisting of: linear, branched or cyclic alkyl of 1 to 22 carbon atoms, aralkyl of 6 to 22 carbon atoms, aryl, alkaryl, haloalkyl, acyl, ester and cyano; and Y is oxygen or sulfur.

67. (New) The imageable element of claim 36, wherein said acid generator is a light sensitive triazine compound of the formula:



wherein

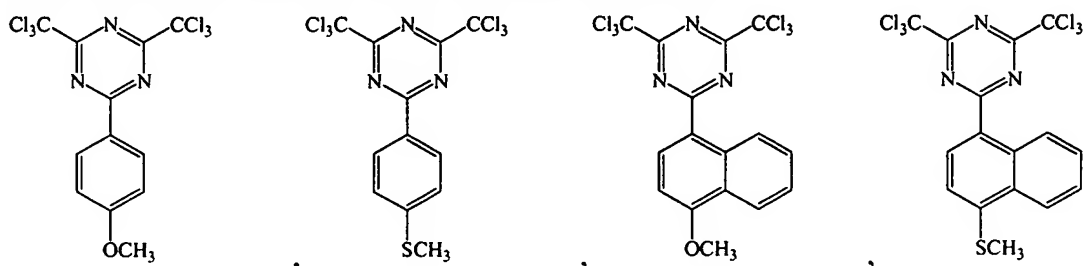
each of R<sup>6</sup>, R<sup>7</sup>, R<sup>8</sup> and R<sup>9</sup> is independently selected from the group consisting of: hydrogen, linear, branched or cyclic alkyl of 1 to 22 carbon atoms, aralkyl of 6 to 22 carbon atoms, aryl, alkaryl, alkoxy of 1 to 22 carbon atoms, haloalkyl, halogen, acyl, ester and cyano, or R<sup>6</sup> and R<sup>7</sup> or R<sup>8</sup> and R<sup>9</sup> together with carbon atoms to which they are attached to form a cycloaliphatic, benzo or a substituted benzo ring;

R<sup>10</sup> is selected from the group consisting of: linear, branched or cyclic alkyl of 1 to 22

carbon atoms, aralkyl of 6 to 22 carbon atoms, aryl, alkaryl, haloalkyl, acyl, ester and cyano;  
and

Y is oxygen or sulfur.

68. (New) The imageable element of claim 36, wherein said acid generator is a light sensitive triazine compound selected from the group consisting of:



and a mixture thereof.

69. (New) The imageable element of claim 36, wherein said acid generator is a monomeric or oligomeric aromatic diazonium salt.
70. (New) The imageable element of claim 36, wherein said acid generator is selected from the group consisting of: an iodonium salt, a sulfonium salt, a hydrocarbyloxysulfonium salt, a hydrocarbyloxyammonium salt, an aryl diazonium salt and a combination thereof.
71. (New) The imageable element of claim 36, wherein said acid generator is an onium salt including a non-nucleophilic anion.
72. (New) The method of claim 37, wherein said lithographic substrate is an aluminum sheet.

## REMARKS

The above-listed claim amendments along with the following remarks are fully responsive to the final Office Action set forth above. This Amendment places the application in condition for allowance, or in better position for appeal, and entry of this Amendment is requested.

By this Amendment, claims 1, 4, 5, 7, 14, 15, 18, 20-23, 34, 37, and 39 are amended. Claims 2, 6, 9-12, 16, 17, 19, 24-33, 35, and 40-49 are cancelled. New claims 50-72 are added. After entry of this Amendment, claims 1, 3-5, 7, 8, 13-15, 18, 20-23, 34, 36-39 and 50-72 are pending. No new matter is introduced into the application by the claim amendments or the new claims.

In one embodiment, the present invention provides a positive-working imageable composition comprising a hydroxyfunctional resin having a covalently bound radiation-sensitive group, an acid generator, a colorant, and an isocyanate crosslinking agent. In another embodiment, the invention provides an imageable element comprising a lithographic substrate having a hydrophilic surface, and a positive-working imageable composition coated on the hydrophilic surface, the imageable composition comprising a hydroxyfunctional resin having a covalently bound radiation-sensitive group and an isocyanate crosslinking agent. The invention further provides a method of producing an imaged element from such an imageable element.

### Claim Rejections – 35 U.S.C. § 102

The Examiner has rejected claims 1, 3-5, 7, 8, 13-18, 20-23, 34, and 36-39 as anticipated by U.S. Patent 6,372,403 to Kurisaki, *et al.* ("Kurisaki"). The Examiner states that Kurisaki reports a photosensitive quinonediazide compound made by a condensation reaction with an oligomeric novolak resin, a crosslinking isocyanate compound, and an additional acrylic resin.

Claims 16 and 17 are cancelled by this Amendment. Claim 1 is presently amended to include a colorant and an acid generator. Claim 1 as presently amended recites a positive-working imageable composition comprising a hydroxyfunctional resin having a covalently bound radiation-sensitive group, an acid generator, a colorant, and an isocyanate crosslinking agent.



The covalently bound radiation-sensitive group is capable of increasing the solubility of the imageable composition in an alkaline developer upon exposure to radiation.

The Applicant respectfully submits that claim 1 is not anticipated by Kurisaki. Kurisaki reports a photosensitive resin composition comprising (a) a photosensitizer having in its structure 1,2-diazidonaphthoquinone structure, and a methylene-bridged structure composed of two or more methyl-substituted phenol derivatives, (b) a polymer having both hydroxyl group and carboxyl group, or a combination of a hydroxyl group-containing polymer and a carboxyl group-containing polymer, (c) a crosslinking agent capable of crosslinking hydroxyl groups and carboxyl groups, and (d) a solvent (Abstract). Kurisaki reports that isocyanate crosslinkers are suitable for use in the photosensitive resin composition. The photosensitive resin composition can be used as a photoresist to obtain films having high transparency and patterns having high contrast (col. 2, lines 12-14).

Kurisaki does not report the use of a colorant and an acid generator in the photosensitive compositions. Therefore Kurisaki cannot anticipate claim 1 as presently amended. Furthermore, since an objective of Kurisaki was to obtain films having high transparency and patterns having high contrast, Kurisaki does not suggest the incorporation of an acid generator and a colorant into the reported photosensitive compositions. Withdrawal of the rejection of claim 1 is requested.

Claims 3-5, 7, 8, 13-15, 18, and 20-23 depend from claim 1 and recite additional features. For at least the same reasons stated above, each of claims 3-5, 7, 8, 13-15, 18, and 20-23 is allowable over the cited art. Withdrawal of the rejection of these claims is requested.

Independent claim 34 recites an imageable element comprising a lithographic substrate having a hydrophilic surface, and a positive-working imageable composition coated on the hydrophilic surface, the imageable composition comprising a hydroxyfunctional resin having a covalently bound radiation-sensitive group and an isocyanate crosslinking agent. The covalently bound radiation-sensitive group is capable of increasing the solubility of the imageable composition in an alkaline developer upon exposure to radiation. Suitable lithographic substrates

include any sheet material conventionally used to prepare lithographic printing plates; see Specification at page 21, line 21 bridging to page 22, line 9.

Kurisaki does not report an imageable element comprising a lithographic substrate having a hydrophilic surface. The compositions of Kurisaki are reported to be useful as photoresists for substrates such as silicon (col. 9, line 17). Kurisaki neither teaches nor suggests the use of a lithographic substrate having a hydrophilic surface.

The imageable element according to the present invention is characterized by a high practical light sensitivity, good differentiation between image areas and non-image areas, high resolution, easy, scum-free development, and long printing runs (page 29, lines 16-21). Kurisaki neither teaches nor suggests that an imageable element having these characteristics can be obtained by employing a lithographic substrate having a hydrophilic surface. Withdrawal of the rejection of claim 34 is therefore requested.

Claim 36 depends from claim 34, and recites an imageable element that further includes an acid generator and a colorant. Kurisaki not only fails to provide the lithographic substrate having a hydrophilic surface recited in claim 36, Kurisaki also fails to provide the acid generator and colorant recited in claim 36. Claim 36 is neither anticipated by nor obvious in view of Kurisaki, and withdrawal of the rejection is requested.

Independent claim 37 recites a method for producing an imaged element. The method includes the step of providing an imageable element comprising a lithographic substrate having a hydrophilic surface and a positive-working imageable composition coated on the hydrophilic surface of the substrate.

Kurisaki does not report an imageable element comprising a lithographic substrate having a hydrophilic surface. Kurisaki therefore cannot anticipate claim 37. Kurisaki neither teaches nor suggests that an imageable element can be obtained by employing a lithographic substrate having a hydrophilic surface. Withdrawal of the rejection is requested.

Claims 38 and 39 depend from claim 37, and recite additional features. For at least the same reasons stated above, claims 38 and 39 are allowable over the cited art. Withdrawal of the rejection of these claims is requested.

New dependent claims 50-72 are added, and are directed to alternative embodiments of the invention. As each of claims 50-72 depends from an allowable claim and recites additional features, each is also allowable over the cited art for at least the same reasons.

### Conclusion

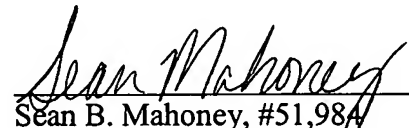
This Amendment places the application in condition for allowance, or in better condition for appeal, and entry of this Amendment and reconsideration of the application is requested. All claims are in condition for allowance, and a notice to that effect is respectfully solicited. If there are any outstanding issues remaining in this case after consideration of this Amendment, the Examiner is invited to call the undersigned attorney in order to expedite further prosecution.

Respectfully Submitted,

JAMES LAURENCE MULLIGAN

Dated: January 22, 2004

By:

  
Sean B. Mahoney, #51,984  
FAEGRE & BENSON LLP  
2200 Wells Fargo Center  
90 South Seventh Street  
Minneapolis, MN 55402-3901  
612/766-6845